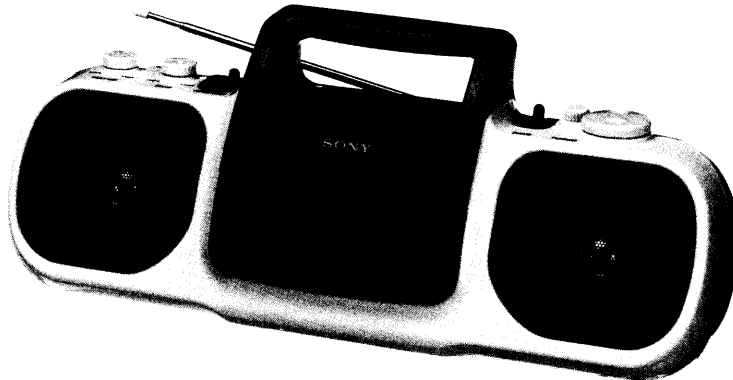


CFS-904L

SERVICE MANUAL

AEP Model
UK Model



MEGA BASS

SPECIFICATIONS

Model Name Using Similar Mechanism	CFS-204L
Tape Transport Mechanism Type	MF-204-64

Tuner frequency range

FM	MW	LW	SW
87.6— 107MHz	531— 1602kHz	153— 279kHz	5.95— 18MHz

Frequency response	80Hz—10,000Hz
Speakers	10cm (4in.) dia. full range×2
Outputs	Headphones jack (stereo minijack) for 8—300ohm impedance headphones
Maximum power output	4.0W (2.0W+2.0W)
Power requirements	9V DC, six R14 (size C) batteries DC IN 9V jack accepts: AC power adaptor (supplied)

	Power requirements (supplied AC power adaptor)
UK model	240V AC, 50Hz
AEP, German model	220—230V AC, 50Hz

DCC-E190L car battery cord (not supplied) for use with 12V car battery

Battery life	Batteries	FM recording	Playing
	Sony SUM-2(NS)	Approx. 11hours	Approx. 14hours
	Sony AM2 alkaline	Approx. 23hours	Approx. 30hours

Dimensions	Approx. 470×150×154mm (w/h/d) (18 ⁵ / ₈ ×6×6 ¹ / ₈ inches)incl. projecting parts and controls
------------	--

Weight	Approx. 2.6kg (5lb 12oz) incl. batteries
Accessory supplied	AC power adaptor (AC-E905) (1)

Design and specifications subject to change without notice.

RADIO CASSETTE-CORDER
SONY®

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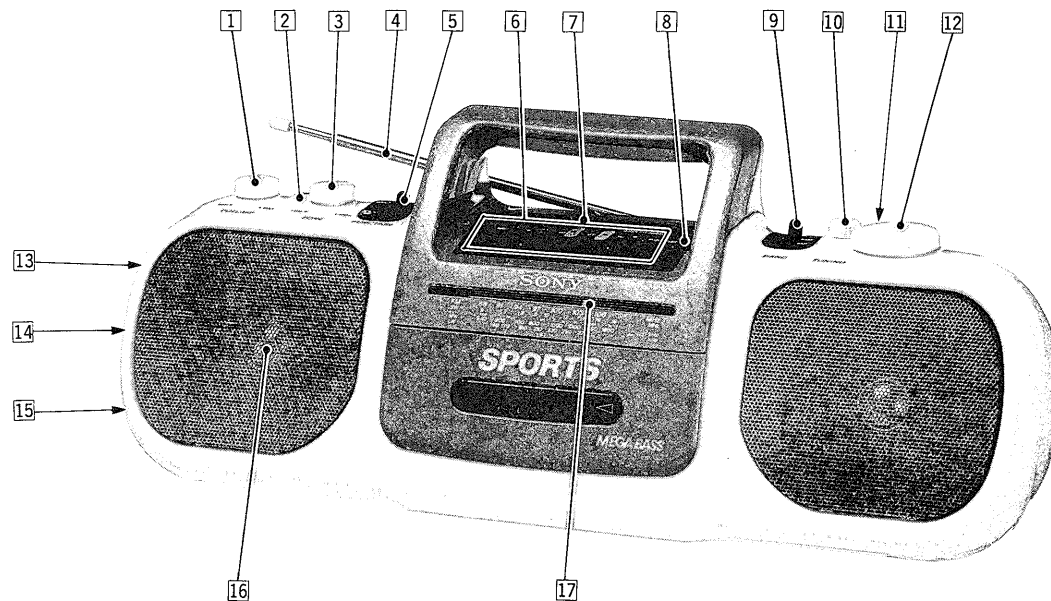
<u>Section</u>	<u>Title</u>	<u>Page</u>
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2. DISASSEMBLY		
2-1.	Removal of Cassette Lid	4
2-2.	Removal of Front Cabinet	4
2-3.	Dial Pointer Setting	5
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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1 GENERAL

1-1. PARTS IDENTIFICATION

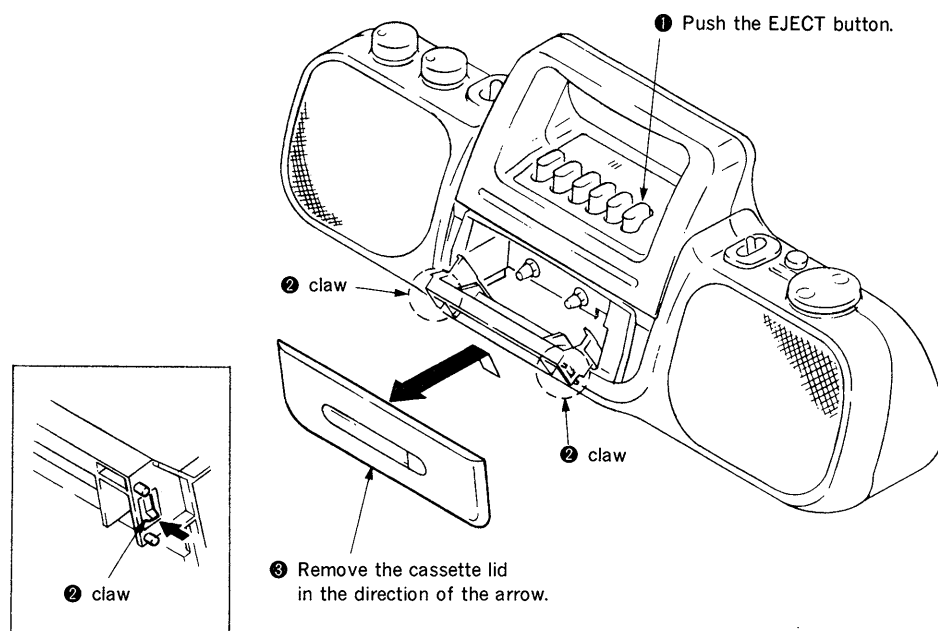


- | | |
|--|-----------------------------------|
| 1 VOLUME control | 8 MEGA BASS button |
| 2 OPR/BATT (operation/battery) indicator | 9 BAND (FM, SW, MW, LW) selector |
| 3 TONE control | 10 FINE TUNE control |
| 4 Telescopic antenna | 11 FM ST (FM STEREO) indicator |
| 5 FUNCTION (TAPE, RADIO) selector | 12 TUNING control |
| 6 Tape operation buttons | 13 PHONES (headphones) jack |
| PAUSE | 14 ISS/FM MODE selector |
| << FF (fast forward) | 15 DC IN 9V (DC power input) jack |
| >> REW (rewind) | 16 Speaker |
| ◁ PLAY (playback) | 17 Dial pointer |
| ○ REC (record) | |
| ■ STOP/EJECT | |
| 7 MIC (microphone) | |

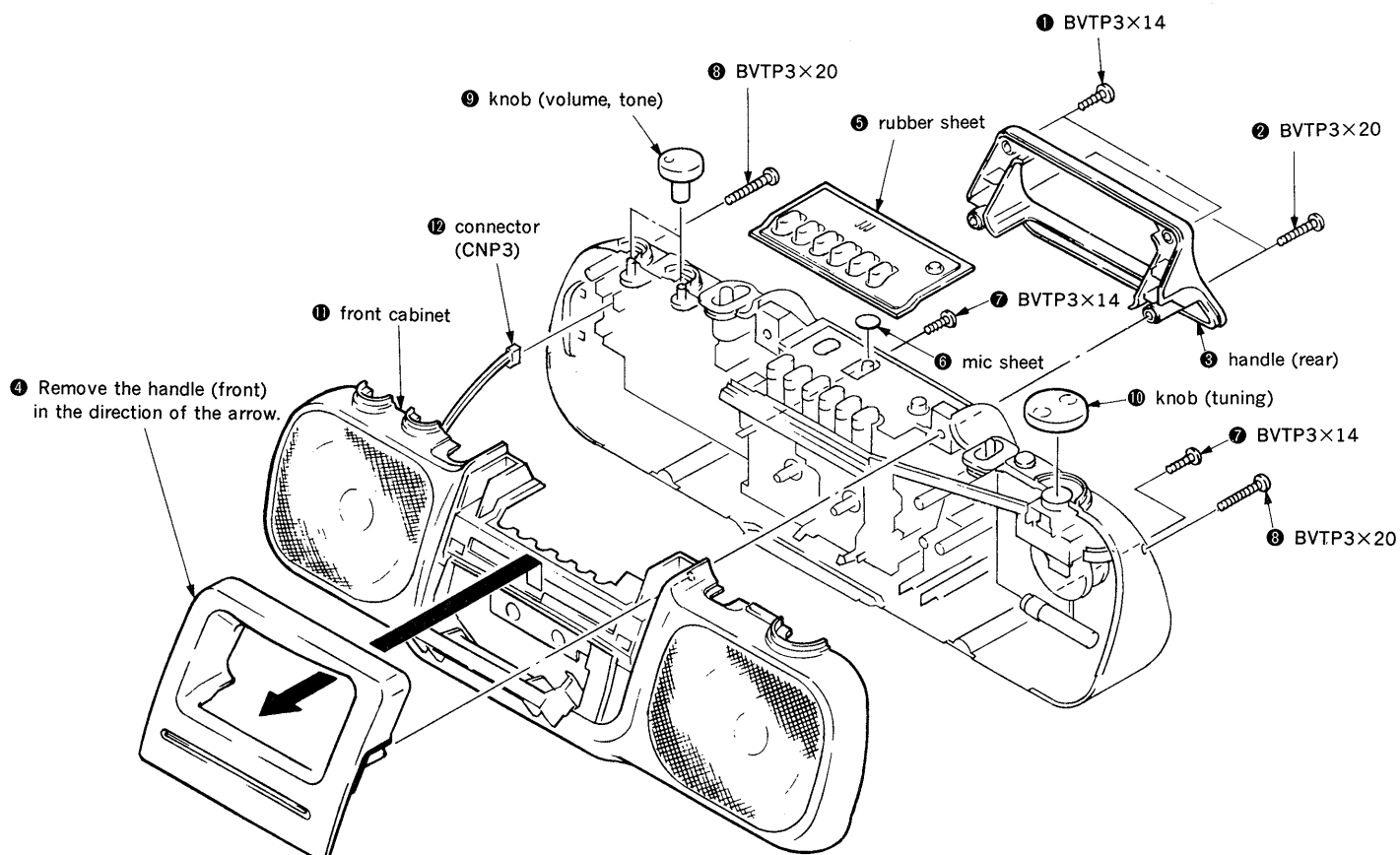
SECTION 2 DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

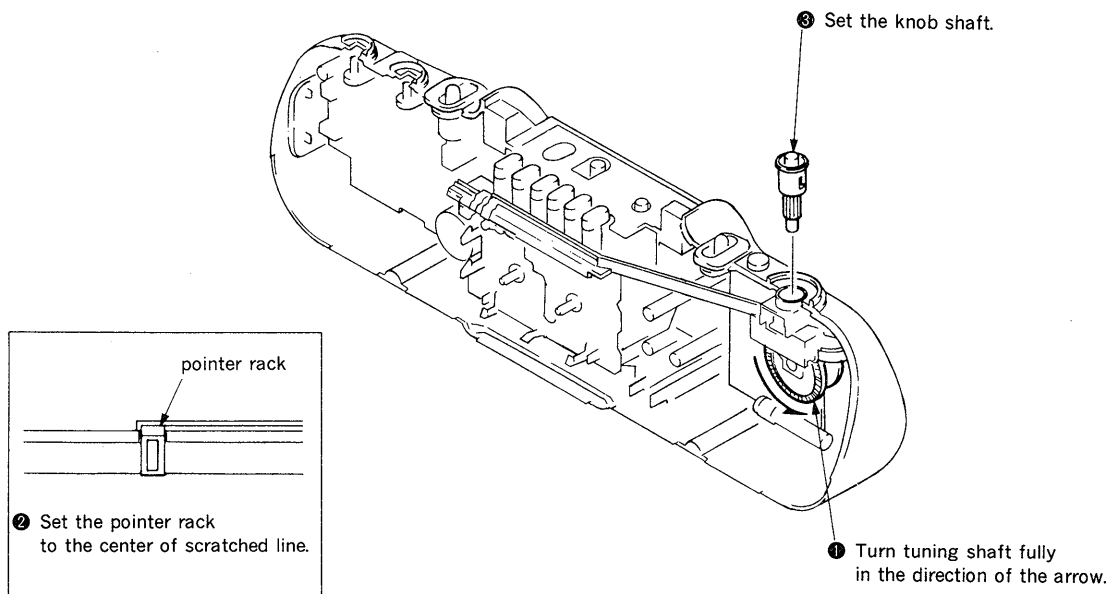
2-1. REMOVAL OF CASSETTE LID



2-2. REMOVAL OF FRONT CABINET



2-3. DIAL POINTER SETTING



SECTION 3 MECHANICAL ADJUSTMENTS

PRECAUTION

- Clean the following parts with a denatured-alcohol-moistened swab :

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers
- Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.
- Power supply voltage : 9V dc.

Torque Measurement

Torque	Torque meter	Meter reading
Forward	CQ-102C	20 – 60g•cm (0.28 – 0.83 oz•inch)
Forward back tension	CQ-102C	2 – 6g•cm (0.028 – 0.083 oz•inch)
Fast Forward	CQ-201B	more than 45g•cm (more than 0.62 oz•inch)
Rewind	CQ-201B	more than 45g•cm (more than 0.62 oz•inch)

Tape Tension Measurement

Mode	Meter	Meter Reading
Forward	CQ-403A	more than 70g (more than 2.47 oz)
Reverse	CQ-403R	

SECTION 4 ELECTRICAL ADJUSTMENTS

4-1. TAPE RECORDER SECTION

Standard Output Level

Output terminal	SP OUT	HP OUT
load impedance	3.2Ω	32Ω
output signal level	0.775V (0dB)	0.25V (−10dB)

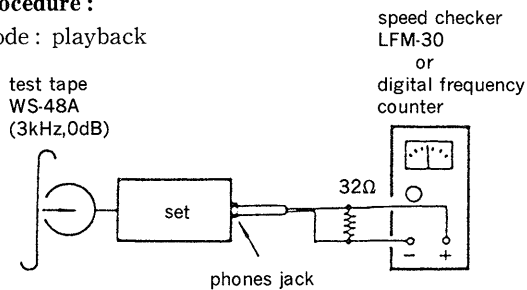
Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	tape speed adjustment

Tape Speed Adjustment

Procedure :

Mode : playback

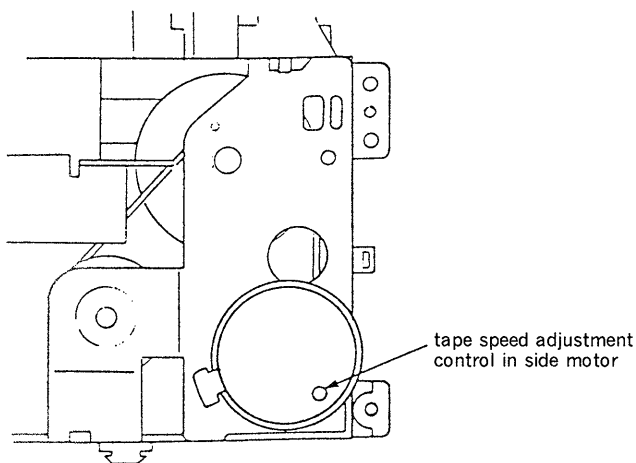


Adjustment Value :

Speed checker	Digital frequency counter
−3% to +3%	2,910 to 3,090Hz

Frequency difference between the beginning and the end of the tape should be within $\pm 1.5\%$ (45Hz).

Adjustment Location :

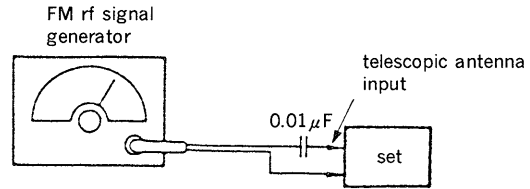


4-2. TUNER SECTION

• FM Section

Setting :

BAND switch : FM

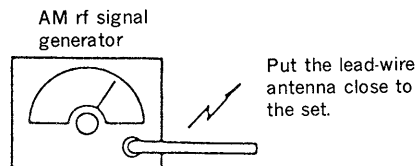


22.5kHz frequency deviation by 400Hz signal
output level : as low as possible

• MW/LW Section

Setting :

BAND switch : MW or LW



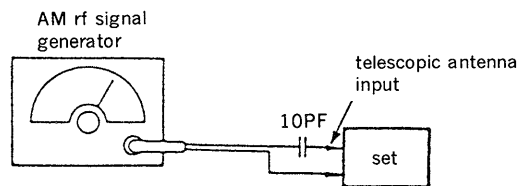
30% amplitude modulation by 400Hz signal
output level : as low as possible

• SW Section

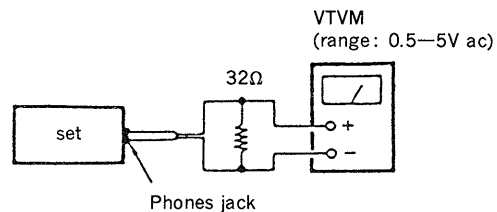
Setting :

BAND switch : SW

FINE TUNE control : mechanical mid



30% amplitude modulation by 400Hz signal
output level : as low as possible



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.
- Remove telescopic antenna in FM section adjustments.

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L2	CT2
87.0MHz	108.3MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	CT1
87.0MHz	108.3MHz

AM IF ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CFT1	
455kHz	

MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L5	CT4
520kHz	1,680kHz

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3-1	CT3
620kHz	1,400kHz

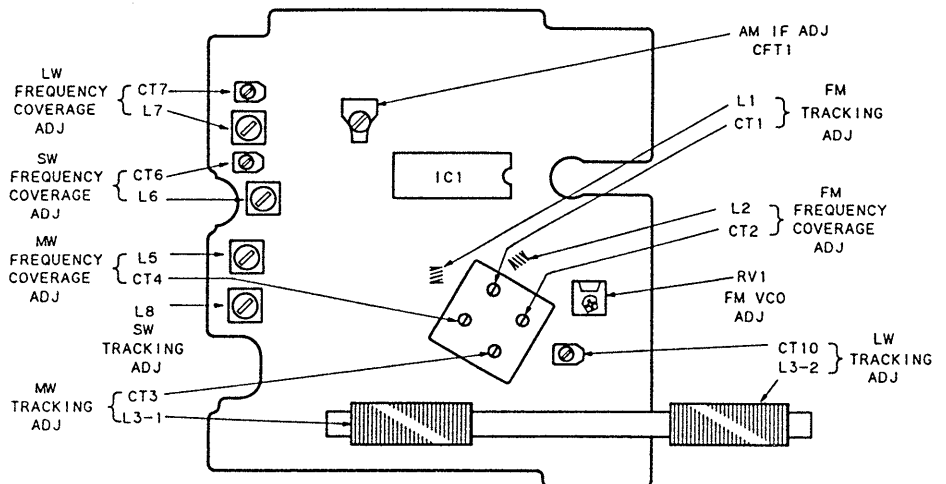
LW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L7	CT7
145kHz	300kHz

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3-2	CT10
160kHz	260kHz

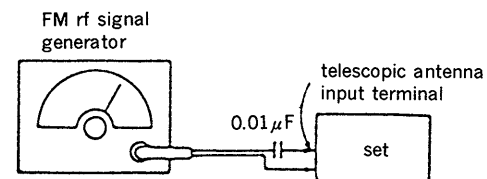
SW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L6	CT6
5.8MHz	18.4MHz

SW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L8	
5.8MHz	

Adjustment Location : Tuner board (component side)



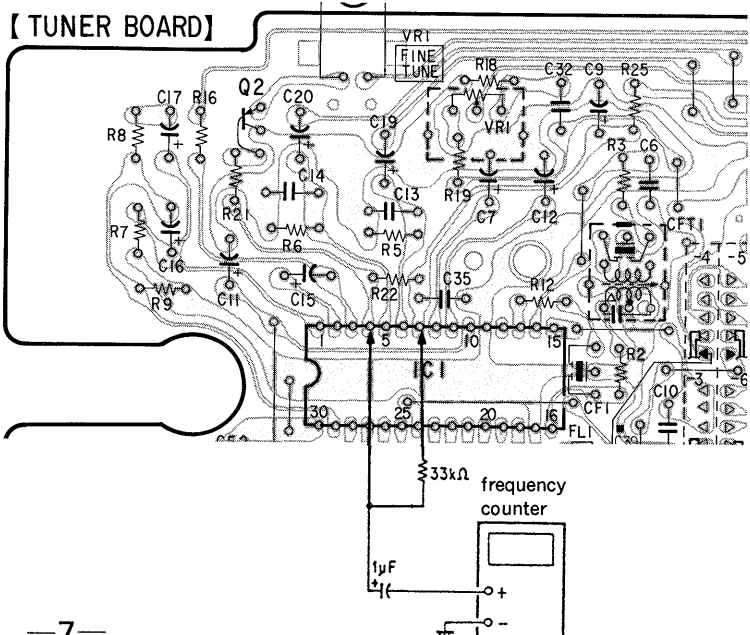
FM VCO Adjustment Procedure :



Carrier frequency : 98MHz
Modulation : no modulation
Output level : 0.1V (100dB)

1. Connect frequency counter as shown below.
2. Tune the set to 98MHz.
3. Adjust RV1 for 76kHz±500Hz reading on the frequency counter.

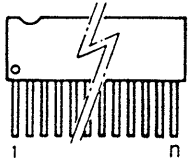
Adjustment Location : Tuner board (conductor side)



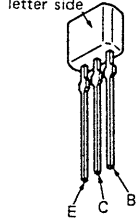
SECTION 5 DIAGRAMS

5-1. SEMICONDUCTOR LEAD LAYOUTS

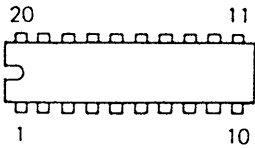
BA3420AL



2SA1175-HFE

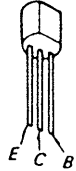


BA3870

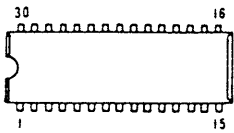


(TOP VIEW)

**2SC945-P
2SC2001-LK**

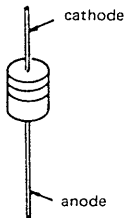


CXA1238S

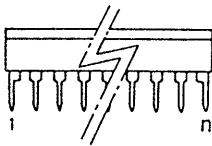


(TOP VIEW)

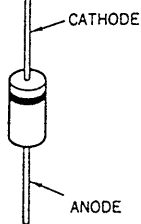
**RD6.8ES-B2
1SS119**



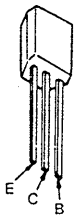
LA4598



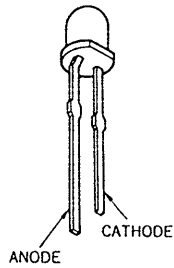
10E2



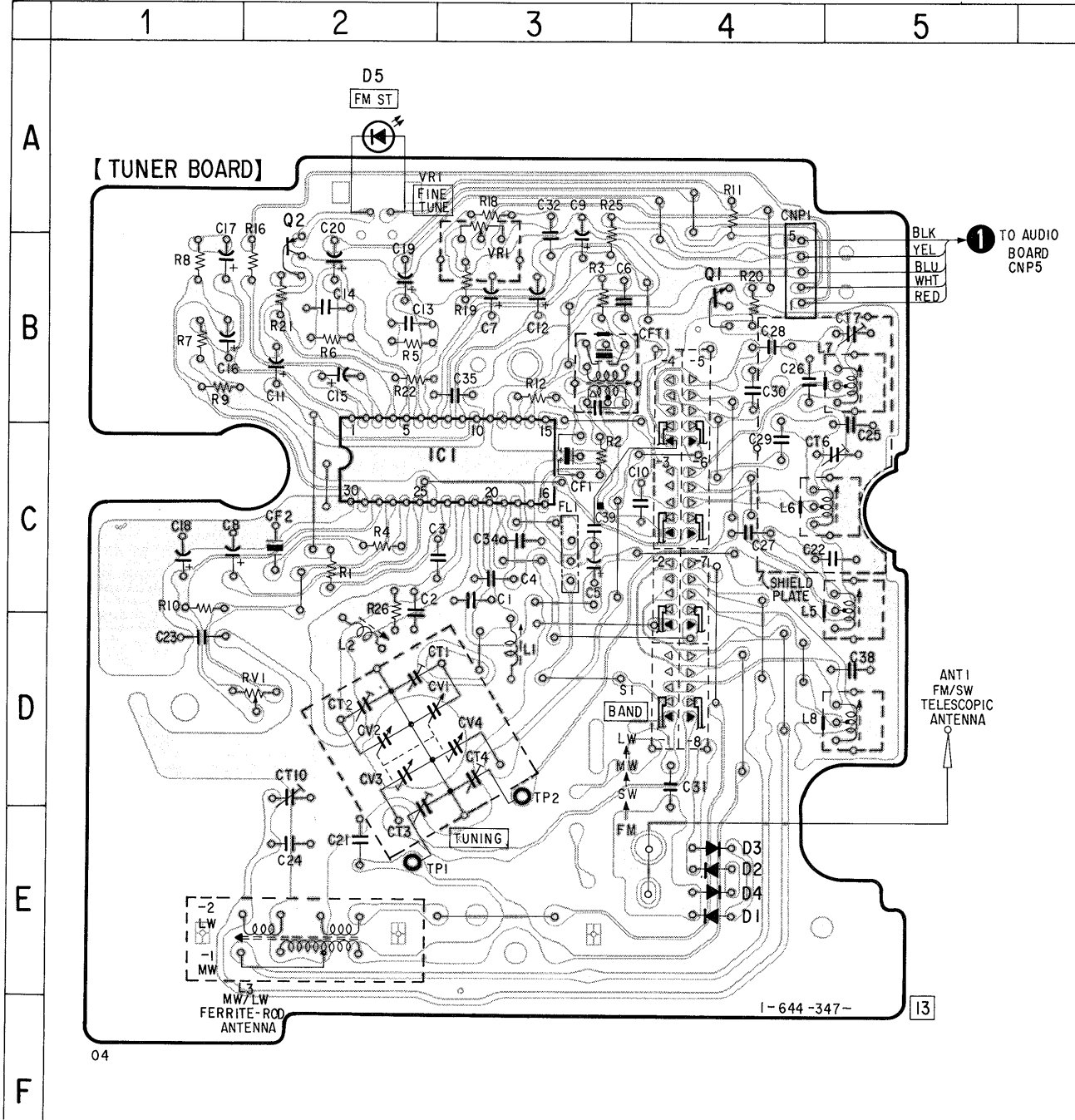
**RN1210
2SC2410SNP**



MVR3338S



5-2. PRINTED WIRING BOARD—TUNER SECTION (AEP, UK MODEL)—
• Refer to page 8 for Semiconductor Lead Layouts.



• Semiconductor Location

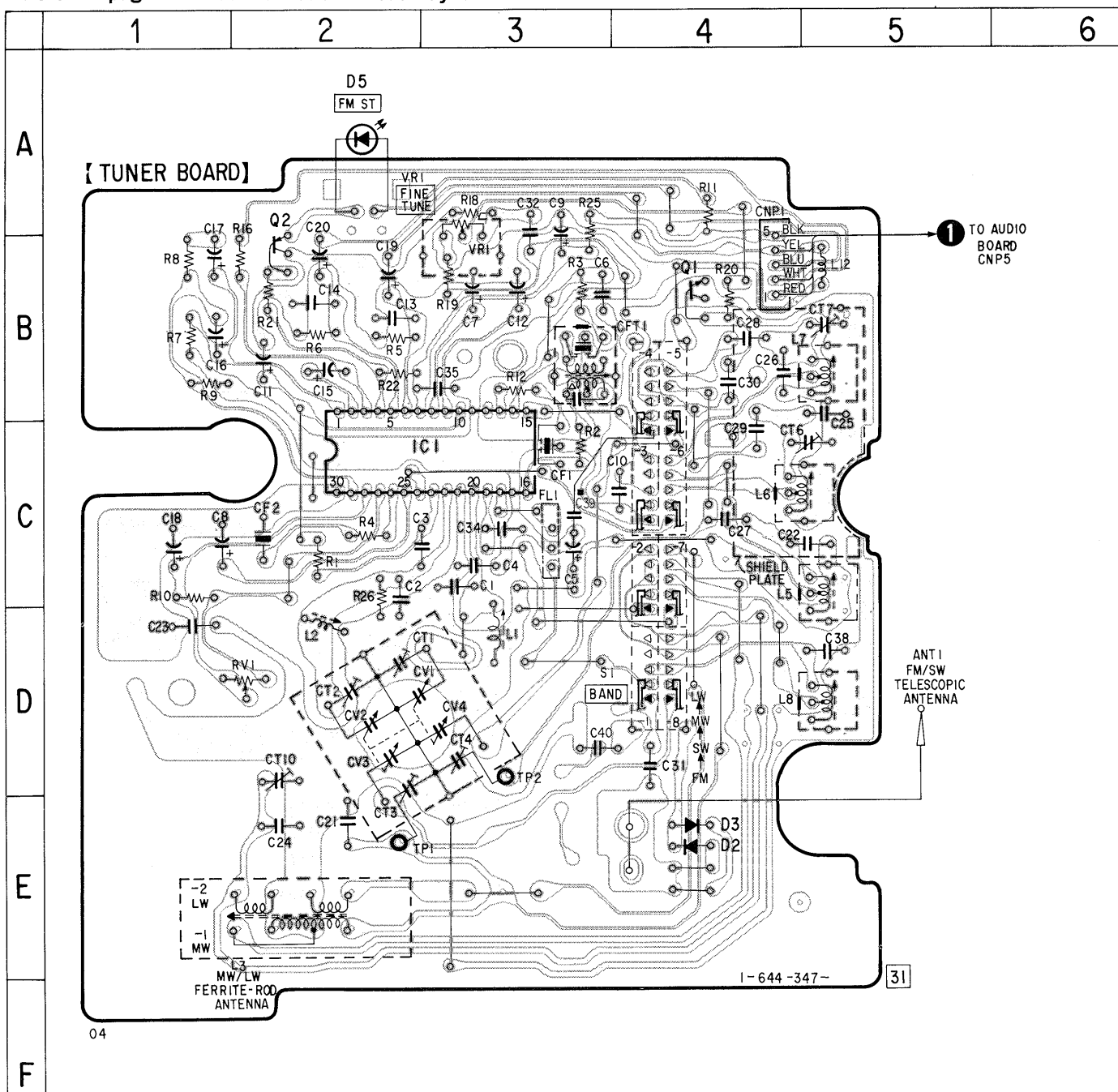
Ref. No.	Location
D1	E-4
D2	E-4
D3	E-4
D4	E-4
D5	A-2
IC1	C-3
Q1	B-4
Q2	B-2

Note:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : parts mounted on the conductor side.

5-3. PRINTED WIRING BOARD—TUNER SECTION (GERMAN MODEL)—

• Refer to page 8 for Semiconductor Lead Layouts.



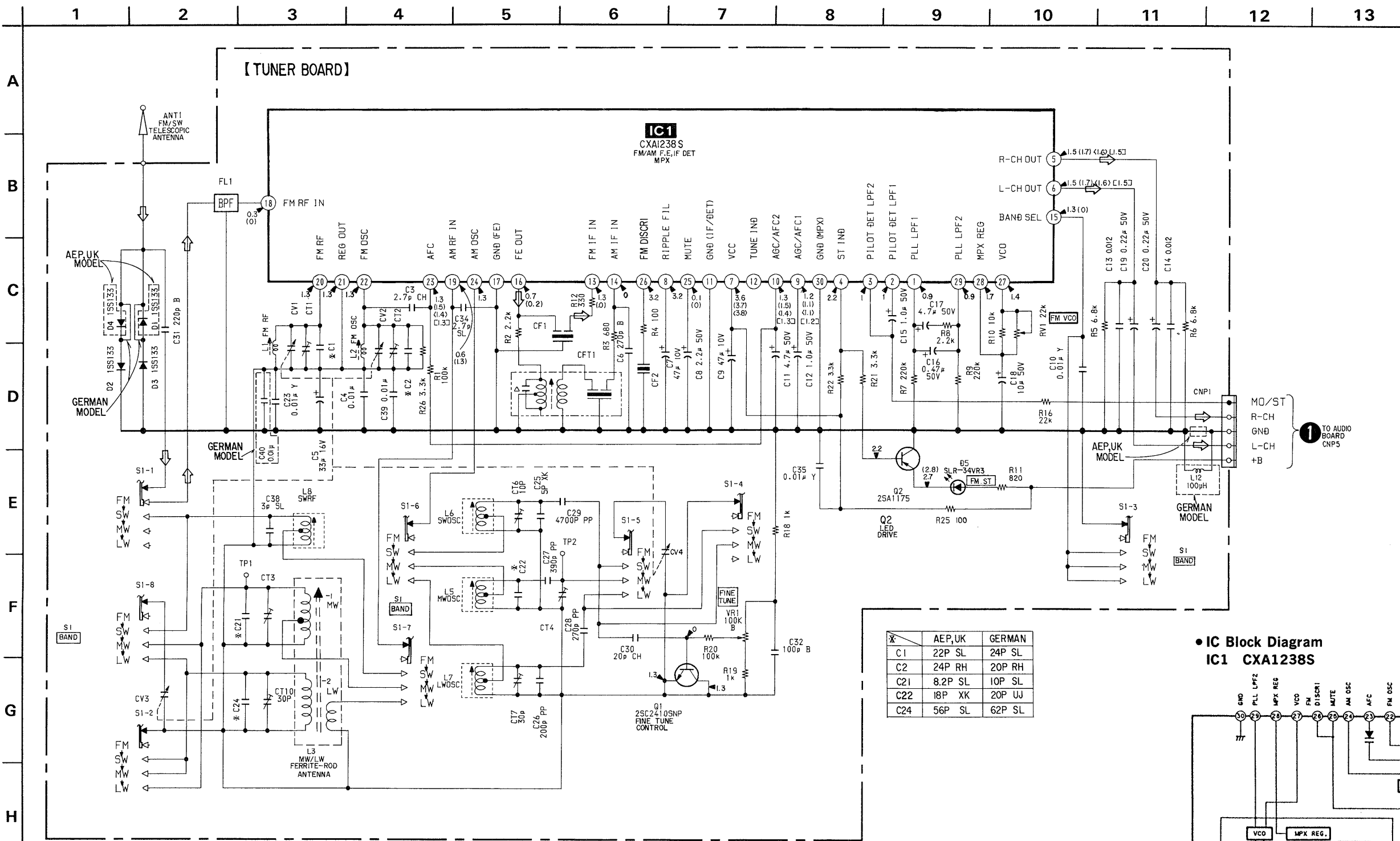
• Semiconductor Location

Ref. No.	Location
D2	E-4
D3	E-4
D5	A-2
IC1	C-3
Q1	B-4
Q2	B-2

Note:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : parts mounted on the conductor side.

5-4. SCHEMATIC DIAGRAM—TUNER SECTION—

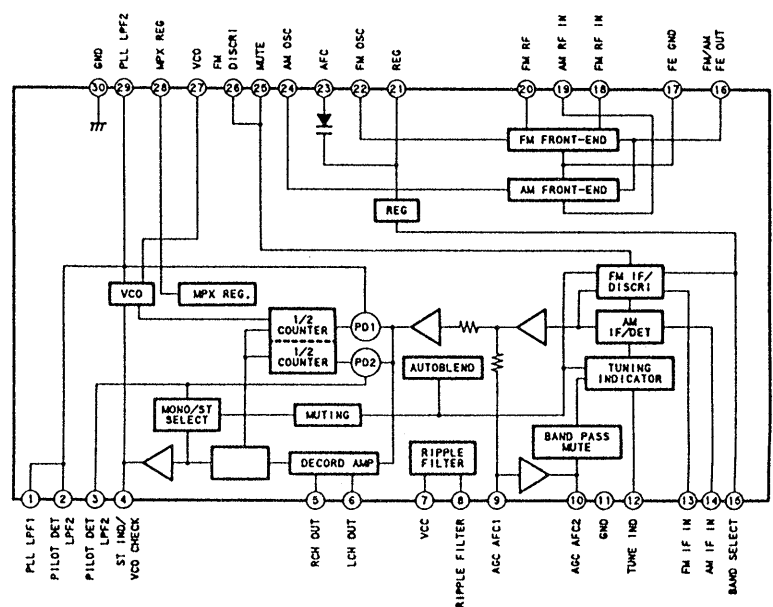


Note:

- All capacitors are in μF unless otherwise noted. pF: μF F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- Δ : internal component.
- **B+** : B+ Line
- : adjustment for repair.
- Power voltage is dc 9V and fed with regulated dc power supply from external power voltage jack.

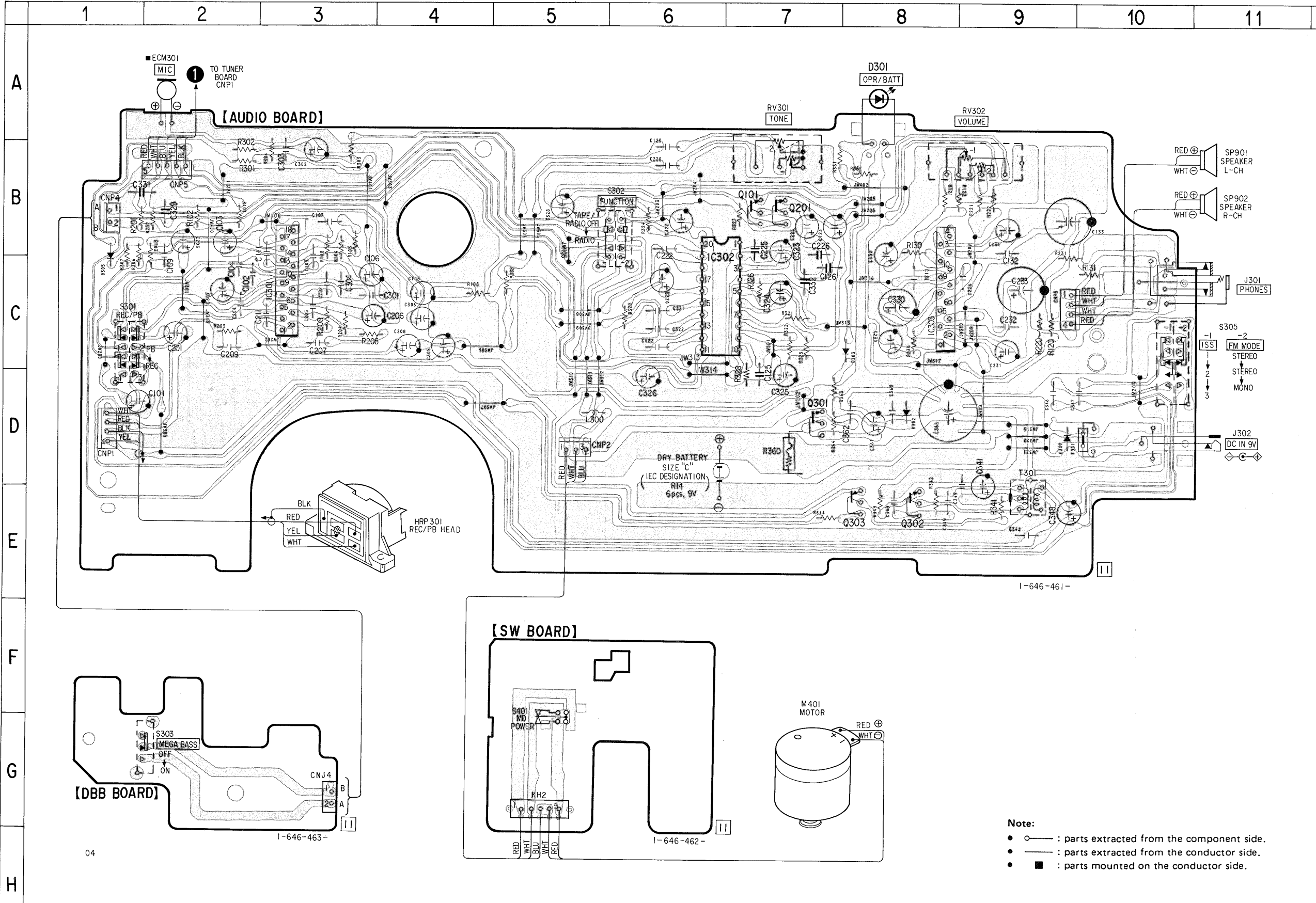
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
no mark : FM
() : SW
< > : MW
() : LW
- Voltages are taken with a VOM (Input Impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Signal path.
 $\Rightarrow$: FM

• IC Block Diagram
IC1 CXAI238S

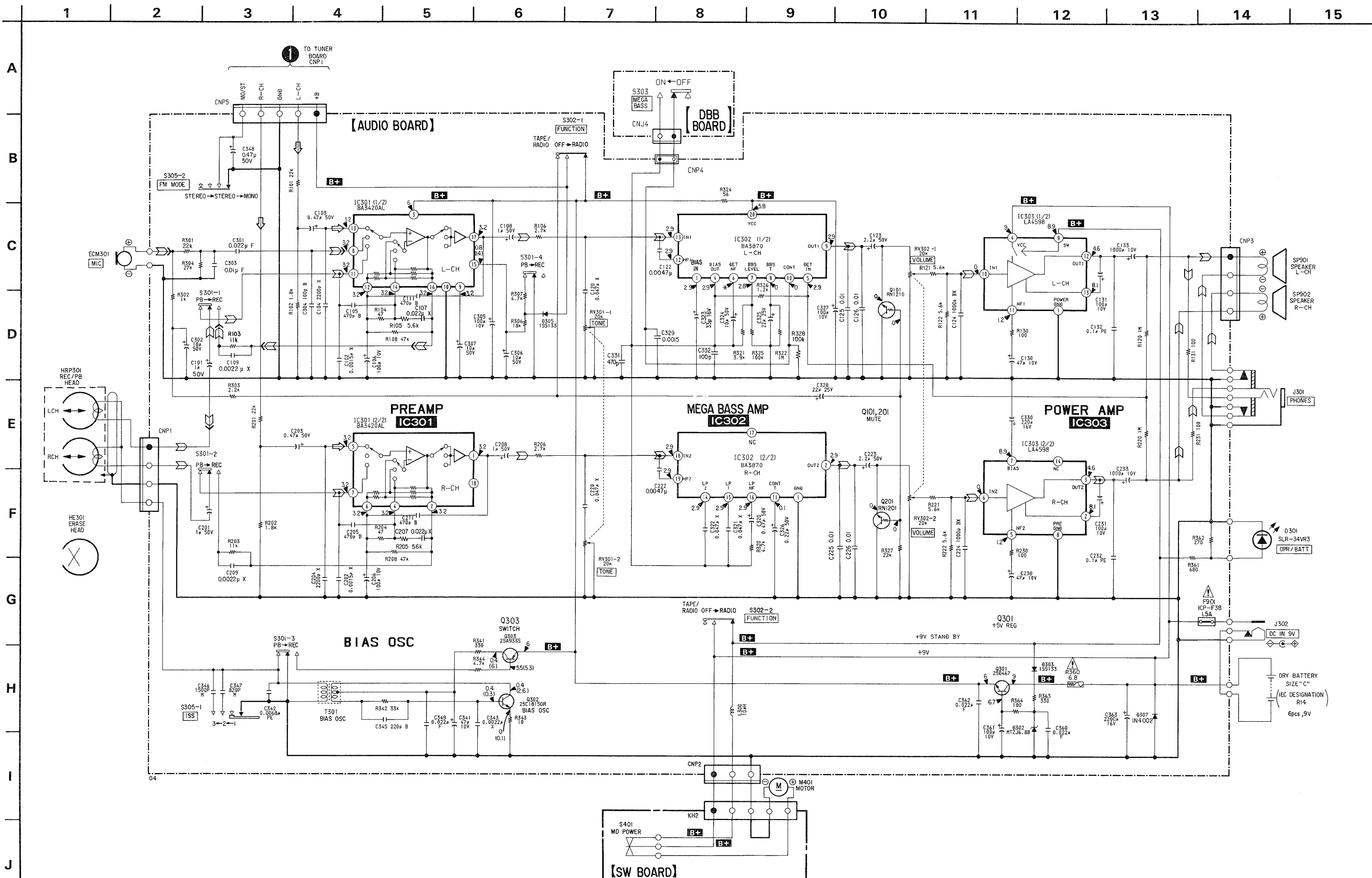


• Semiconductor Location 5-5. PRINTED WIRING BOARDS—AUDIO SECTION— • Refer to page 8 for Semiconductor Lead Layouts.

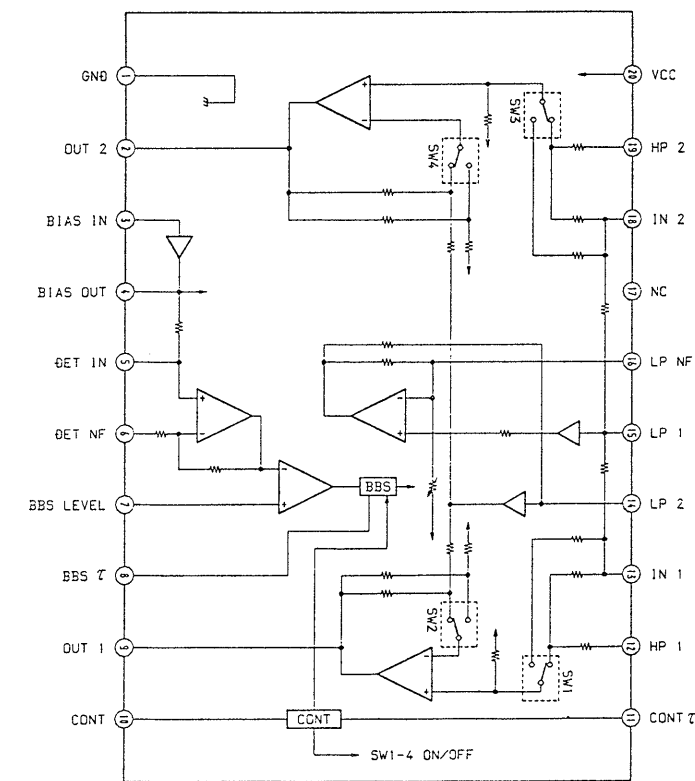
Ref. No.	Location
D301	A-8
D302	D-8
D303	C-7
D305	C-1
D307	D-9
IC301	C-3
IC302	C-6
IC303	C-8
Q101	B-7
Q201	B-7
Q301	D-7
Q302	E-8
Q303	E-8



5-6. SCHEMATIC DIAGRAM—AUDIO SECTION—



• IC Block Diagram
IC302 BA3870



Note:

- All capacitors are in μF unless otherwise noted. pF ; μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.

Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- **B+**: B+ Line
- Power voltage is dc 9V and fed with regulated dc power supply from external power voltage jack.
- Voltage is dc with respect to ground under no-signal conditions.
- no mark: PB
- (): REC
- $\times$: Impossible measure point
- Voltages are taken with a VOM (Input Impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- $\rightarrow$: FM
- $\rightarrow$: PB
- $\rightarrow$: REC

SECTION 6 EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts

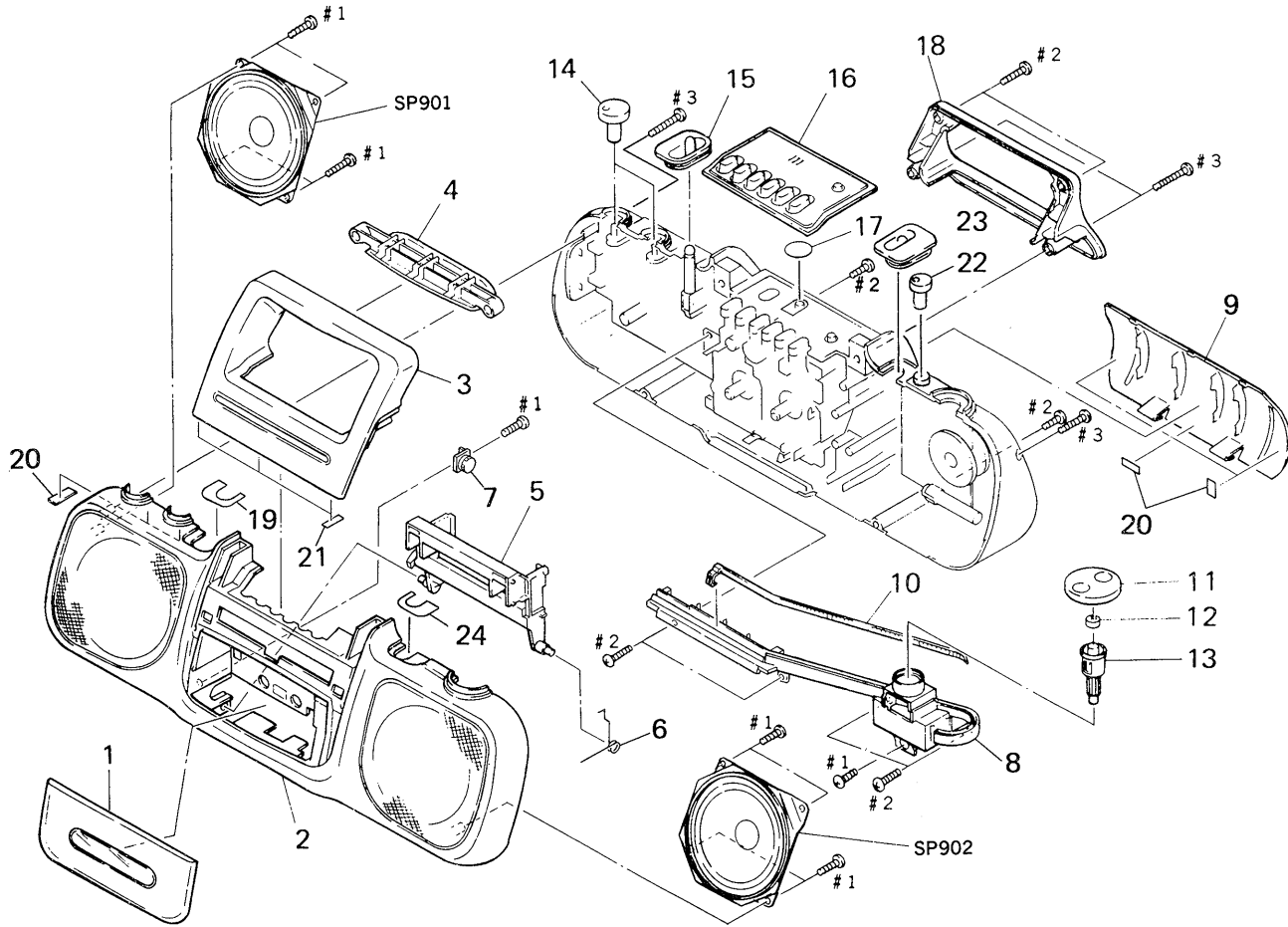
Example :

KNOB, BALANCE (WHITE)... (RED)

↑ ↑
Parts Color Cabinet's Color

- Hardware (# mark) list is given in the last of this parts list.

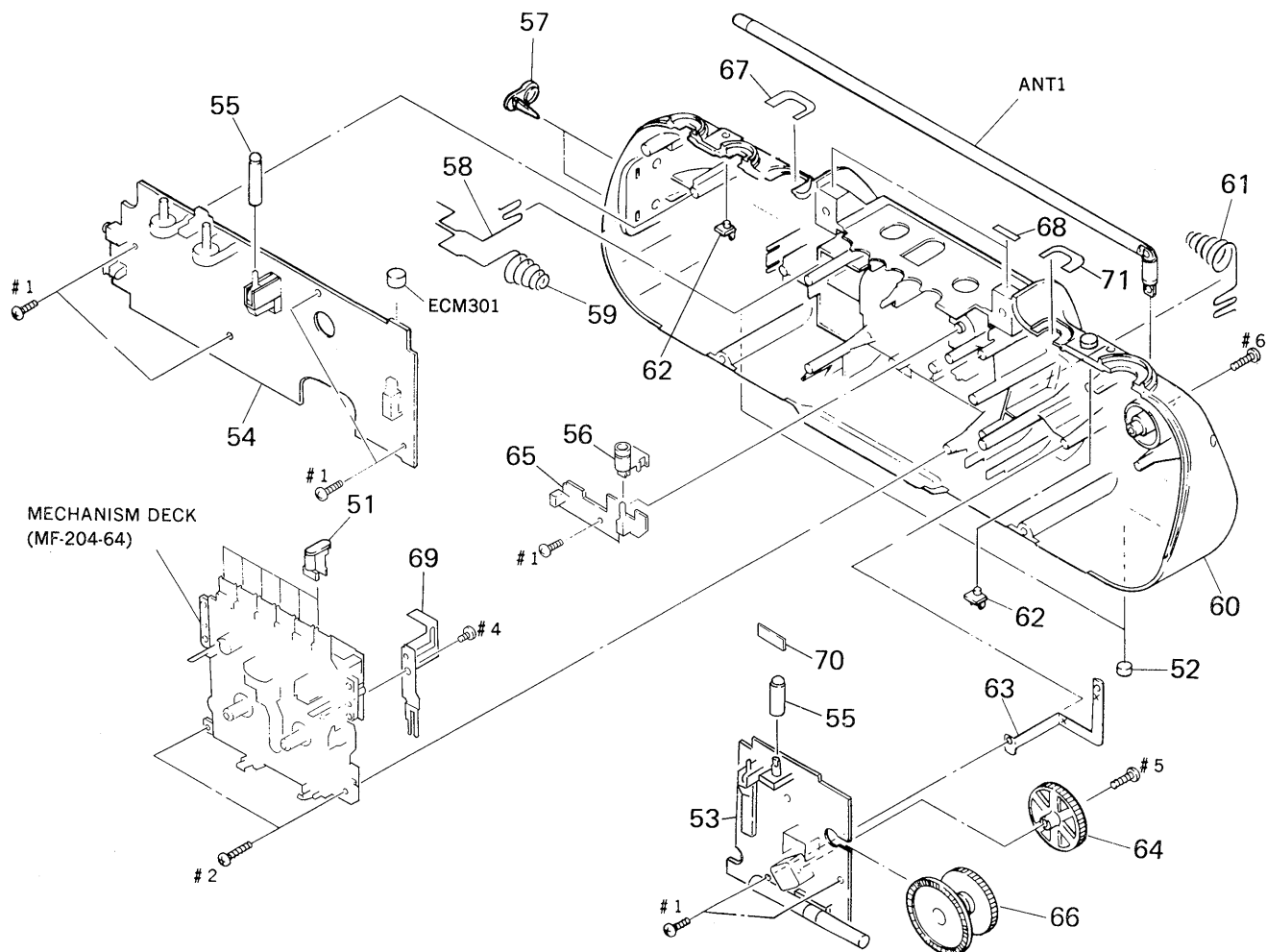
6-1. FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3-374-550-21	LID, CASSETTE	
2	X-3366-026-1	CABINET (FRONT) SUB ASSY	
3	3-385-455-31	HANDLE (FRONT)	
4	3-374-536-01	GRIP, HANDLE	
5	3-385-451-01	HOLDER, CASSETTE	
6	3-385-447-01	SPRING (CASSETTE)	
7	3-351-377-11	DAMPER	
8	3-385-454-01	CHASSIS, POINTER	
9	3-374-553-01	LID, BATTERY CASE	
* 10	3-374-545-01	RACK, POINTER	
11	3-374-544-01	KNOB (TUNING)	
12	3-374-534-01	SPRING, KNOB	
13	3-374-546-01	SHAFT, KNOB	

Ref. No.	Part No.	Description	Remark
14	3-374-525-01	KNOB (VOL)	
15	3-374-547-11	SEAL (FUNCTION), RUBBER	
16	3-385-452-01	PACKING (MD BUTTON)	
17	3-378-500-01	SHEET, MIC	
18	3-374-548-01	HANDLE (REAR)	
19	3-377-455-01	SHEET (B), ADHESIVE	
* 20	3-378-433-01	CUSHION, SARANET	
* 21	3-377-230-01	CUSHION, SARANET (AEP, UK)	
22	3-374-516-01	KNOB (FINE)	
23	3-374-517-01	PACKING (BAND)	
24	3-379-697-01	SHEET (E), ADHESIVE	
SP901	1-503-631-11	SPEAKER	
SP902	1-503-631-11	SPEAKER	

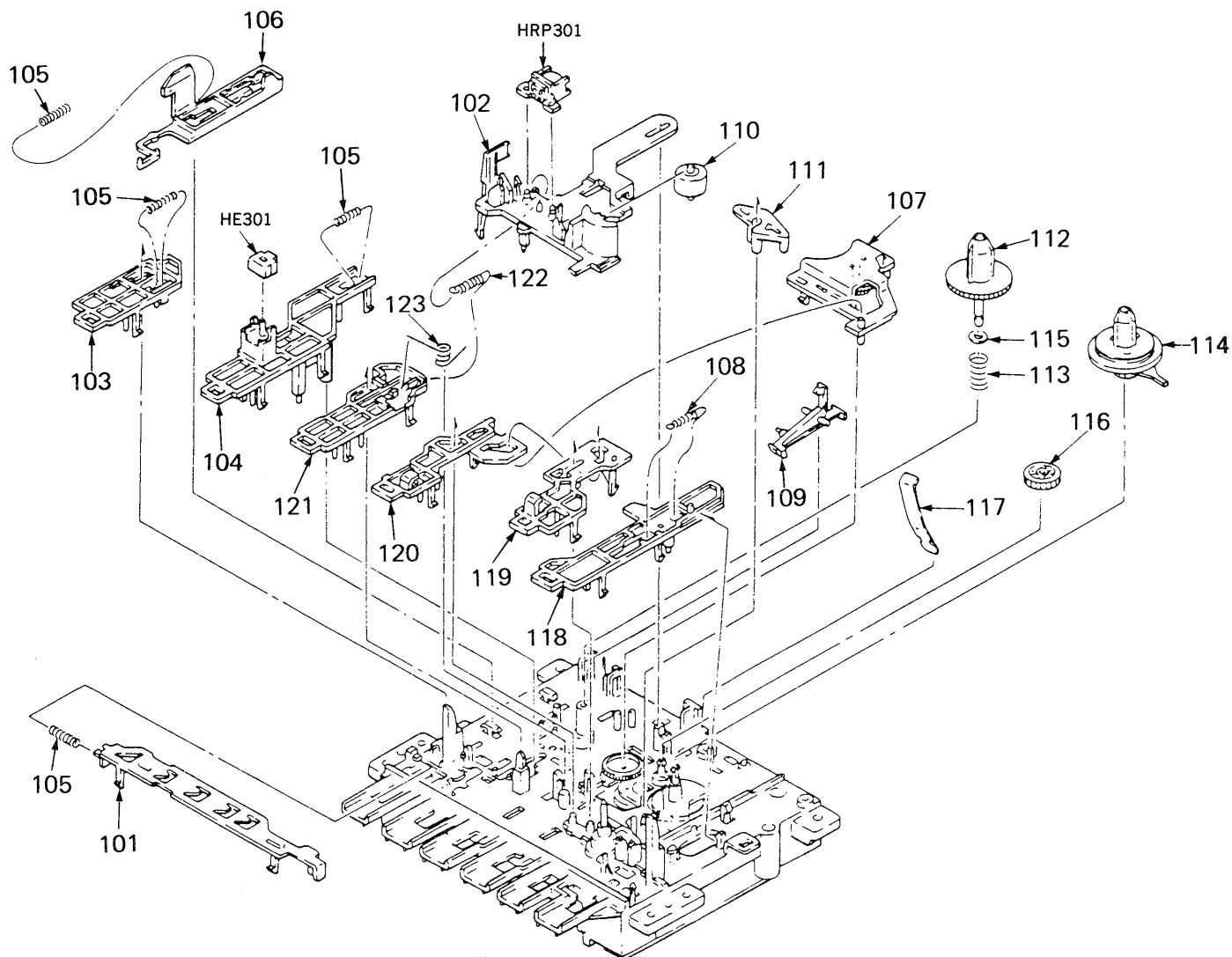
6-2. REAR CABINET SECTION



Ref. No.	Part No.	Description	Remark
51	3-385-445-01	BUTTON (MD)	
* 52	4-908-723-11	SPACER (1)	
* 53	A-3275-768-A	TUNER BOARD, COMPLETE (AEP, UK)	
* 53	A-3275-769-A	TUNER BOARD, COMPLETE (German)	
* 54	A-3275-767-A	AUDIO BOARD, COMPLETE	
55	3-374-526-01	KNOB (FUNCTION)	
56	3-385-448-01	BUTTON, MEGA BASS	
57	3-374-531-01	PACKING (JACK)	
58	3-375-095-01	TERMINAL (+), BATTERY	
59	3-375-096-01	SPRING (-), BATTERY	
60	3-385-456-41	CABINET (REAR)	
61	3-374-532-01	SPRING (+ -), BATTERY	

Ref. No.	Part No.	Description	Remark
62	3-374-530-01	WINDOW, LED	
* 63	3-374-533-01	TERMINAL BOARD, ANTENNA	
* 64	3-374-527-01	DRUM, DIAL	
* 65	1-646-463-11	DBB BOARD	
* 66	3-374-528-01	SHAFT, TUNING	
67	3-377-454-01	SHEET (A), ADHESIVE	
* 68	3-378-433-01	CUSHION, SARANET	
69	3-385-446-01	LEVER (REC)	
* 70	3-378-434-01	CUSHION, SARANET	
71	3-379-698-01	SHEET (F), ADHESIVE	
ANT1	1-501-378-51	ANTENNA, TELESCOPIC	
ECM301	1-542-064-31	MICROPHONE, ELECTRET CONDENSER (MIC)	

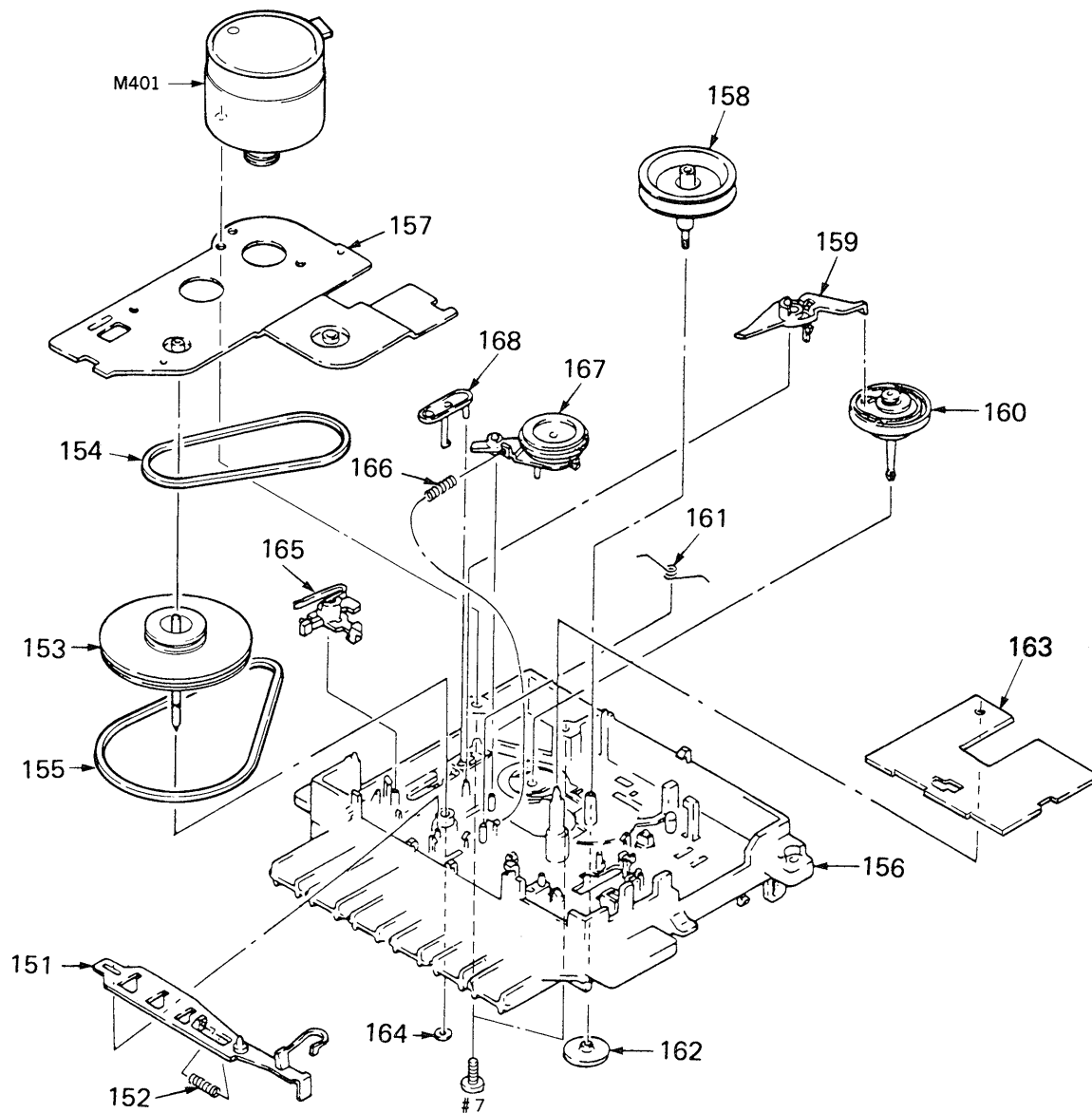
6-3. TAPE MECHANISM (1) SECTION (MF-204-64)



Ref. No.	Part No.	Description	Remark
101	4-932-695-01	SLIDER (FR), LOCK	
102	4-928-998-01	DECK (S), HEAD	
103	4-928-985-11	LEVER, STOP	
104	4-934-511-01	LEVER (S), REC	
105	4-932-648-01	SPRING, COMPRESSION	
106	4-936-206-01	SLIDER (S), EJECT	
107	X-4920-347-1	LEVER (S) ASSY, FR	
108	3-313-372-01	SPRING, TENSION	
109	4-928-960-02	CLAW, SAFETY	
110	4-928-962-01	PINCH ROLLER	
111	4-928-982-01	LEVER (C)	
112	4-928-978-01	GEAR (C), SUPPLY REEL	
113	3-343-381-01	SPRING, COMPRESSION	

Ref. No.	Part No.	Description	Remark
114	X-4920-350-1	GEAR (S) ASSY, T REEL	
115	4-931-795-11	WASHER	
116	3-343-285-01	GEAR, FF	
117	4-928-957-01	RETAINER, CASSETTE	
118	4-928-994-01	LEVER, PAUSE	
119	4-928-993-01	LEVER, FF	
120	4-928-992-01	LEVER, REW	
121	4-928-991-01	LEVER, PLAY	
122	4-928-972-01	SPRING, TENSION	
123	4-928-973-01	SPRING	
HE301	1-543-876-11	HEAD (ERASE)	
HRP301	1-543-628-11	HEAD, MAGNETIC (REC/PB)	

**6-4. TAPE MECHANISM (2) SECTION
(MF-204-64)**



Ref. No.	Part No.	Description	Remark
151	4-928-996-11	LEVER, SW	
152	4-932-656-01	SPRING, COMPRESSION	
153	X-4920-349-1	WHEEL (S) ASSY, CAPSTAN	
154	4-928-974-01	BELT (MIDWAY)	
155	4-928-951-01	BELT (CAPSTAN)	
156	X-4920-348-1	CHASSIS (S) ASSY, MECHANICAL	
* 157	X-4918-598-1	PLATE ASSY, GROUND	
158	X-4918-580-1	PULLEY ASSY, FR	
159	4-928-986-01	LEVER (S), SHUT-OFF	
160	X-4918-582-1	PLATE ASSY, TAKE-UP REEL	

Ref. No.	Part No.	Description	Remark
161	4-928-958-01	SPRING, FR RETURN	
162	4-928-967-01	GEAR (C), MIDWAY	
* 163	1-646-462-11	SW BOARD	
164	3-343-358-01	RING, RETAINING	
165	4-928-987-01	LEVER (T), SHUT-OFF	
166	4-932-655-01	SPRING, COMPRESSION	
167	X-4920-346-1	LEVER (S) ASSY, IDLER	
168	4-928-961-01	PLATE, PAUSE LOCK	
M401	X-4919-956-1	MOTOR ASSY	

AUDIO

SECTION 7 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A... uPA...: μ PA...
uPB...: μ PB... uPC...: μ PC... uPD...: μ PD...
- CAPACITORS
uF: μ F
- COILS
uH: μ H

The components identified by mark Δ or dotted line with mark. Δ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark		
*	A-3275-767-A	AUDIO BOARD, COMPLETE	*****		
		< CAPACITOR >			
C101	1-124-903-11	ELECT	1uF	20%	50V
C102	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C103	1-124-902-00	ELECT	0.47uF	20%	50V
C104	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C105	1-162-290-31	CERAMIC	470PF	10%	50V
C106	1-124-443-00	ELECT	100uF	20%	10V
C107	1-162-843-11	CERAMIC	0.022uF	10%	16V
C108	1-124-903-11	ELECT	1uF	20%	50V
C109	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C111	1-162-290-31	CERAMIC	470PF	10%	50V
C120	1-162-847-11	CERAMIC	0.047uF	10%	16V
C122	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C123	1-124-925-11	ELECT	2.2uF	20%	100V
C124	1-162-294-31	CERAMIC	0.001uF	10%	50V
C125	1-162-306-11	CERAMIC	0.01uF	20%	16V
C126	1-162-306-11	CERAMIC	0.01uF	20%	16V
C130	1-124-126-00	ELECT	47uF	20%	10V
C131	1-124-443-00	ELECT	100uF	20%	10V
C132	1-137-399-11	FILM	0.1uF	5%	50V
C133	1-124-473-11	ELECT	1000uF	20%	10V
C201	1-124-903-11	ELECT	1uF	20%	50V
C202	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C203	1-124-902-00	ELECT	0.47uF	20%	50V
C204	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C205	1-162-290-31	CERAMIC	470PF	10%	50V
C206	1-124-443-00	ELECT	100uF	20%	10V
C207	1-162-843-11	CERAMIC	0.022uF	10%	16V
C208	1-124-903-11	ELECT	1uF	20%	50V
C209	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C211	1-162-290-31	CERAMIC	470PF	10%	50V
C220	1-162-847-11	CERAMIC	0.047uF	10%	16V
C222	1-161-377-00	CERAMIC	0.0047uF	20%	16V
C223	1-124-925-11	ELECT	2.2uF	20%	100V
C224	1-162-294-31	CERAMIC	0.001uF	10%	50V
C225	1-162-306-11	CERAMIC	0.01uF	20%	16V

Ref. No.	Part No.	Description	Remark		
C226	1-162-306-11	CERAMIC	0.01uF	20%	16V
C230	1-124-126-00	ELECT	47uF	20%	10V
C231	1-124-443-00	ELECT	100uF	20%	10V
C232	1-137-399-11	FILM	0.1uF	5%	50V
C233	1-124-473-11	ELECT	1000uF	20%	10V
C301	1-162-843-11	CERAMIC	0.022uF	10%	16V
C302	1-124-907-11	ELECT	10uF	20%	50V
C303	1-162-306-11	CERAMIC	0.01uF	20%	16V
C304	1-162-282-31	CERAMIC	100PF	10%	50V
C305	1-124-443-00	ELECT	100uF	20%	10V
C306	1-124-907-11	ELECT	10uF	20%	50V
C307	1-124-907-11	ELECT	10uF	20%	50V
C320	1-124-902-00	ELECT	0.47uF	20%	50V
C321	1-162-847-11	CERAMIC	0.047uF	10%	16V
C322	1-162-847-11	CERAMIC	0.047uF	10%	16V
C323	1-124-034-51	ELECT	33uF	20%	16V
C324	1-124-907-11	ELECT	10uF	20%	50V
C325	1-124-916-11	ELECT	22uF	20%	63V
C326	1-124-464-11	ELECT	0.22uF	20%	50V
C327	1-124-443-00	ELECT	100uF	20%	10V
C328	1-124-916-11	ELECT	22uF	20%	63V
C329	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C330	1-124-120-11	ELECT	220uF	20%	25V
C331	1-162-290-31	CERAMIC	470PF	10%	50V
C332	1-162-282-31	CERAMIC	100PF	10%	50V
C341	1-124-126-00	ELECT	47uF	20%	10V
C342	1-130-481-00	MYLAR	0.0068uF	5%	50V
C343	1-161-375-00	CERAMIC	0.0022uF	20%	50V
C345	1-162-286-31	CERAMIC	220PF	10%	50V
C346	1-130-473-00	MYLAR	0.0015uF	5%	50V
C347	1-130-470-00	MYLAR	820PF	5%	50V
C348	1-124-902-00	ELECT	0.47uF	20%	50V
C349	1-161-494-00	CERAMIC	0.022uF		25V
C360	1-161-494-00	CERAMIC	0.022uF		25V
C361	1-124-443-00	ELECT	100uF	20%	10V
C362	1-161-494-00	CERAMIC	0.022uF		25V
C363	1-124-556-11	ELECT	2200uF	20%	16V

Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
CNP1	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P	
* CNP2	1-569-990-11	PIN, CONNECTOR (PC BOARD) 3P	
CNP3	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P	
* CNP4	1-560-530-00	PIN, CONNECTOR 2P	
CNP5	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P	
< DIODE >			
D301	8-719-980-67	LED MVR3338S (OPR/BATT)	
D302	8-719-109-97	DIODE RD6.8ES-B2	
D303	8-719-911-19	DIODE 1SS119	
D305	8-719-911-19	DIODE 1SS119	
D307	8-719-200-02	DIODE 10E2	
< MICROPHONE >			
ECM301	1-542-064-31	MICROPHONE, ELECTRET CONDENSER (MIC)	
< IC LINK >			
<u>△</u> F901	1-532-675-00	LINK, IC (ICP-F38) (1.5A)	
< IC >			
IC301	8-759-978-54	IC BA3420AL	
IC302	8-759-048-60	IC BA3870	
IC303	8-759-060-21	IC LA4598	
< JACK >			
J301	1-566-891-11	JACK (PHONES)	
J302	1-573-667-11	JACK, DC (POLAR UNITY TYPE) (DC IN 9V)	
< COIL >			
L300	1-410-509-11	INDUCTOR 10uH	
< TRANSISTOR >			
Q101	8-729-206-28	TRANSISTOR RN1210	
Q201	8-729-206-28	TRANSISTOR RN1210	
Q301	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q302	8-729-194-57	TRANSISTOR 2SC945-P	
Q303	8-729-119-76	TRANSISTOR 2SA1175-HFE	
< RESISTOR >			
R101	1-249-433-11	CARBON 22K 5% 1/4W	
R102	1-249-420-11	CARBON 1.8K 5% 1/4W	
R103	1-247-856-00	CARBON 11K 5% 1/4W	
R104	1-249-401-11	CARBON 47 5% 1/4W	
R105	1-249-426-11	CARBON 5.6K 5% 1/4W	
R106	1-249-422-11	CARBON 2.7K 5% 1/4W	
R108	1-249-437-11	CARBON 47K 5% 1/4W	
R120	1-247-903-91	CARBON 1M 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R121	1-249-426-11	CARBON 5.6K 5% 1/4W	
R122	1-249-426-11	CARBON 5.6K 5% 1/4W	
R130	1-249-405-11	CARBON 100 5% 1/4W	
R131	1-249-405-11	CARBON 100 5% 1/4W	
R201	1-249-433-11	CARBON 22K 5% 1/4W	
R202	1-249-420-11	CARBON 1.8K 5% 1/4W	
R203	1-247-856-00	CARBON 11K 5% 1/4W	
R204	1-249-401-11	CARBON 47 5% 1/4W	
R205	1-249-426-11	CARBON 5.6K 5% 1/4W	
R206	1-249-422-11	CARBON 2.7K 5% 1/4W	
R208	1-249-437-11	CARBON 47K 5% 1/4W	
R220	1-247-903-91	CARBON 1M 5% 1/4W	
R221	1-249-426-11	CARBON 5.6K 5% 1/4W	
R222	1-249-426-11	CARBON 5.6K 5% 1/4W	
R230	1-249-405-11	CARBON 100 5% 1/4W	
R231	1-249-405-11	CARBON 100 5% 1/4W	
R301	1-249-433-11	CARBON 22K 5% 1/4W	
R302	1-249-417-11	CARBON 1K 5% 1/4W	
R303	1-249-421-11	CARBON 2.2K 5% 1/4W	
R304	1-249-434-11	CARBON 27K 5% 1/4W	
R306	1-249-432-11	CARBON 18K 5% 1/4W	
R307	1-249-425-11	CARBON 4.7K 5% 1/4W	
R320	1-249-425-11	CARBON 4.7K 5% 1/4W	
R321	1-249-424-11	CARBON 3.9K 5% 1/4W	
R322	1-247-903-91	CARBON 1M 5% 1/4W	
R324	1-249-402-11	CARBON 56 5% 1/4W	
R325	1-249-441-11	CARBON 100K 5% 1/4W	
R326	1-249-418-11	CARBON 1.2K 5% 1/4W	
R327	1-249-433-11	CARBON 22K 5% 1/4W	
R328	1-249-441-11	CARBON 100K 5% 1/4W	
R341	1-249-411-11	CARBON 330 5% 1/4W	
R342	1-249-435-11	CARBON 33K 5% 1/4W	
R343	1-249-393-11	CARBON 10 5% 1/4W	
R344	1-249-425-11	CARBON 4.7K 5% 1/4W	
<u>△</u> R360	1-219-113-11	FUSIBLE 6.8 5% 1/4W F	
R361	1-249-415-11	CARBON 680 5% 1/4W	
R362	1-249-410-11	CARBON 270 5% 1/4W	
R363	1-249-411-11	CARBON 330 5% 1/4W	
R364	1-249-405-11	CARBON 100 5% 1/4W	

< VARIABLE RESISTOR >

RV301	1-237-567-11	RES, VAR, CARBON 20K/20K (TONE)
RV302	1-230-454-11	RES, VAR, CARBON 20K/20K (VOLUME)

< SWITCH >

S301	1-571-472-11	SWITCH, SLIDE (REC/PB)
S302	1-570-347-11	SWITCH, LEVER SLIDE (FUNCTION)
S305	1-571-307-11	SWITCH, SLIDE (FM MODE/ISS)

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

AUDIO

DBB

SW

TUNER

Ref.No.	Part No.	Description	Remark
< TRANSFORMER >			
T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR	

*	1-646-463-11	DBB BOARD	

< CONNECTOR >			
* CNJ4	1-561-649-00	SOCKET, CONNECTOR 2P	
< SWITCH >			
S303	1-571-360-11	SWITCH, PUSH (1 KEY) (MEGA BASS)	

*	1-646-462-11	SW BOARD	

< CABLE HOLDER >			
* KH2	1-565-386-11	HOLDER, CABLE 5P	
< SWITCH >			
S401	1-571-330-21	SWITCH, LEAF (MD POWER)	

*	A-3275-768-A	TUNER BOARD, COMPLETE (AEP, UK)	
*	A-3275-769-A	TUNER BOARD, COMPLETE (German)	

*	3-374-527-01	DRUM, DIAL	
*	3-379-696-01	HOLDER (C), LED	
	7-621-770-87	SCREW +B 2.6X5	
< CAPACITOR >			
C1	1-102-960-00	CERAMIC 24PF 5% 50V (German)	
C1	1-164-054-11	CERAMIC 22PF 5% 50V (AEP, UK)	
C2	1-102-960-00	CERAMIC 24PF 5% 50V (AEP, UK)	
C2	1-162-206-31	CERAMIC 20PF 5% 50V (German)	
C3	1-162-192-31	CERAMIC 2.7PF 10% 50V	
C4	1-162-839-11	CERAMIC 0.01uF 10% 16V	
C5	1-124-034-51	ELECT 33uF 20% 16V	
C6	1-164-078-11	CERAMIC 270PF 10% 50V	
C7	1-124-126-00	ELECT 47uF 20% 10V	
C8	1-124-925-11	ELECT 2.2uF 20% 100V	
C9	1-124-126-00	ELECT 47uF 20% 10V	
C10	1-162-839-11	CERAMIC 0.01uF 10% 16V	
C11	1-124-927-11	ELECT 4.7uF 20% 100V	

Ref.No.	Part No.	Description	Remark
C12	1-124-903-11	ELECT 1uF 20% 50V	
C13	1-162-840-11	CERAMIC 0.012uF 10% 16V	
C14	1-162-840-11	CERAMIC 0.012uF 10% 16V	
C15	1-124-903-11	ELECT 1uF 20% 50V	
C16	1-124-902-00	ELECT 0.47uF 20% 50V	
C17	1-124-927-11	ELECT 4.7uF 20% 100V	
C18	1-124-907-11	ELECT 10uF 20% 50V	
C19	1-124-464-11	ELECT 0.22uF 20% 50V	
C20	1-124-464-11	ELECT 0.22uF 20% 50V	
C21	1-162-198-31	CERAMIC 8.2PF 10% 50V (AEP, UK)	
C21	1-162-199-31	CERAMIC 10PF 5% 50V (German)	
C22	1-102-953-00	CERAMIC 18PF 5% 50V (AEP, UK)	
C22	1-162-206-31	CERAMIC 20PF 5% 50V (German)	
C23	1-162-839-11	CERAMIC 0.01uF 10% 16V	
C24	1-101-886-00	CERAMIC 62PF 5% 50V (German)	
C24	1-164-064-11	CERAMIC 56PF 5% 50V (AEP, UK)	
C25	1-102-998-11	CERAMIC 5PF 50V	
C26	1-136-010-00	FILM 200PF 5% 50V	
C27	1-110-342-11	FILM 390PF 5% 50V	
C28	1-130-011-00	FILM 270PF 5% 50V	
C29	1-136-287-11	FILM 0.0047uF 5% 50V	
C30	1-162-206-31	CERAMIC 20PF 5% 50V	
C31	1-162-286-31	CERAMIC 220PF 10% 50V	
C32	1-162-282-31	CERAMIC 100PF 10% 50V	
C34	1-162-192-31	CERAMIC 2.7PF 10% 50V	
C35	1-162-839-11	CERAMIC 0.01uF 10% 16V	
C38	1-164-039-11	CERAMIC 3PF 0.25PF 50V	
C39	1-162-839-11	CERAMIC 0.01uF 10% 16V	
C40	1-162-839-11	CERAMIC 0.01uF 10% 16V (German)	
< FILTER >			
CF1	1-567-166-00	FILTER, CERAMIC	
CF2	1-567-166-00	FILTER, CERAMIC	
< ENCAPSULATED COMPONENT >			
CFT1	1-236-079-11	ENCAPSULATED COMPONENT	
< CONNECTOR >			
CNP1	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P	

Ref. No.	Part No.	Description	Remark
< TRIMMER >			
CT1-4 } CV1-4 }	1-151-637-11 CAP, VARIABLE (TUNING)		
CT6	1-141-290-31	CAP, VAR FILM TRIMMER 10PF	
CT7	1-141-266-31	CAP, TRIMMER 30PF	
CT10	1-141-266-31	CAP, TRIMMER 30PF	
< DIODE >			
D1	8-719-911-19	DIODE 1SS119 (AEP, UK)	
D2	8-719-911-19	DIODE 1SS119	
D3	8-719-911-19	DIODE 1SS119	
D4	8-719-911-19	DIODE 1SS119 (AEP, UK)	
D5	8-719-980-67	LED MVR3338S (FM ST)	
< FILTER >			
FL1	1-236-711-21	FILTER, BAND PASS	
< IC >			
IC1	8-752-050-20	IC CXA1238S	
< COIL >			
L1	1-422-317-21	COIL, AIR-CORE	
L2	1-422-230-11	COIL, AIR-CORE (AEP, UK)	
L2	1-459-815-11	COIL (WITH CORE) (German)	
L3	1-402-506-11	ANTENNA, FERRITE-ROD (MW/LW)	
L5	1-406-253-11	COIL (MW OSC)	
L6	1-406-280-11	COIL (SW OSC)	
L7	1-406-252-11	COIL (LW OSC)	
L8	1-402-378-11	COIL (SW ANT)	
L12	1-410-521-11	INDUCTOR 100uH (German)	
< TRANSISTOR >			
Q1	8-729-926-48	TRANSISTOR 2SC2410SNP	
Q2	8-729-119-76	TRANSISTOR 2SA1175-HFE	
< RESISTOR >			
R1	1-249-441-11	CARBON 100K 5% 1/4W	
R2	1-249-421-11	CARBON 2.2K 5% 1/4W	
R3	1-249-415-11	CARBON 680 5% 1/4W	
R4	1-249-405-11	CARBON 100 5% 1/4W	
R5	1-249-427-11	CARBON 6.8K 5% 1/4W	
R6	1-249-427-11	CARBON 6.8K 5% 1/4W	
R7	1-247-887-00	CARBON 220K 5% 1/4W	
R8	1-249-421-11	CARBON 2.2K 5% 1/4W	
R9	1-247-887-00	CARBON 220K 5% 1/4W	
R10	1-249-429-11	CARBON 10K 5% 1/4W	
R11	1-249-416-11	CARBON 820 5% 1/4W	
R12	1-249-411-11	CARBON 330 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R16	1-249-433-11	CARBON 22K 5% 1/4W	
R18	1-249-417-11	CARBON 1K 5% 1/4W	
R19	1-249-417-11	CARBON 1K 5% 1/4W	
R20	1-249-441-11	CARBON 100K 5% 1/4W	
R21	1-249-423-11	CARBON 3.3K 5% 1/4W	
R22	1-249-423-11	CARBON 3.3K 5% 1/4W	
R25	1-249-405-11	CARBON 100 5% 1/4W	
R26	1-249-423-11	CARBON 3.3K 5% 1/4W	
< VARIABLE RESISTOR >			
RV1	1-238-601-11	RES, ADJ, CARBON 22K	
< SWITCH >			
S1	1-571-896-11	SWITCH, LEVER SLIDE (BAND)	
< VARIABLE RESISTOR >			
VR1	1-238-629-11	RES, VAR, CARBON 100K (FINE TUNE)	

MISCELLANEOUS			

ANT1	1-501-378-51	ANTENNA, TELESCOPIC	
HE301	1-543-876-11	HEAD (ERASE)	
HRP301	1-543-628-11	HEAD, MAGNETIC (REC/PB)	
M401	X-4919-956-1	MOTOR ASSY	
SP901	1-503-631-11	SPEAKER	
SP902	1-503-631-11	SPEAKER	

ACCESSORIES & PACKING MATERIALS			

△	1-693-128-11	ADAPTOR, AC (AC-E905) (AEP, German)	
△	1-693-129-11	ADAPTOR, AC (AC-E905) (UK)	
*	3-378-160-01	CUSHION (L) (R)	
*	3-384-636-01	INDIVIDUAL CARTON	
	3-756-212-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH)	

HARDWARE LIST			

#1	7-685-647-71	SCREW +BVTP 3X10 TYPE2 IT-3	
#2	7-685-649-79	SCREW +BVTP 3X14 TYPE2 IT-3	
#3	7-685-651-79	SCREW +BVTP 3X20 TYPE2 IT-3	
#4	7-685-133-19	SCREW +P 2.6X6 TYPE2	
#5	7-621-770-87	SCREW +B 2.6X5	
#6	7-682-547-04	SCREW +B 3X6	
#7	7-621-775-20	SCREW +B 2.6X5	

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

